

Answer all questions

1- Define the following terms:

- a. Endogenous System
- b. Exogenous System
- c. Closed System
- d. Open System

2- Differentiate between the following:

- a. Continuous System and Discrete Systems
- b. Stochastic model and Deterministic model
- c. Static model and Dynamic model

3- A project has been defined to contain the following list of activities along with their completion time and dependencies:

Activity No	Activity	Completion Time (weeks)	Dependency
1.	Requirements gathering	2	--
2.	Requirements prioritization	6	1
3.	Data analysis	3	2
4.	Logical design	7	2
5.	Physical design	6	2
6.	Interface design	1	3,4
7.	Report design	5	4,6
8.	Coding	4	6,7
9.	Testing and documenting	8	5,7
10.	Installation and training	2	8,9

- a. Draw a PERT diagram and Gant chart for the project;
- b. Calculate the earliest completion time for the project;
- c. Show the critical path.

4- For the following case study Draw Data flow diagram at all levels:

Joe the bookkeeper receives bounced checks from the bank. He fills out a Balance Correction Form and forwards it to the Correction Department so that the outstanding balance can be corrected. Joe sends a bounced check letter to the customer requesting a replacement check plus a \$15.00 penalty (this is now included as part of the outstanding balance). Bounced checks are never re-deposited.